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EXAMINER	
BERRIOS, JENNIFER A	

ART UNIT	PAPER NUMBER
1613	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/552,030	GAZZA, GIANLUCA	
	Examiner	Art Unit	
	Jennifer A. Berrios	1613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-32 and 43-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1,3,5-32 and 43-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/19/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the reply filed 10/19/2010, wherein claims 1, 8, 16, 20-26 and 28-32 have been amended, claims 2, 4 and 33-42 have been cancelled and claims 43-54 are newly added.

Currently claims 1, 3, 5-32 and 43-54 are being examined.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

New Rejections

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 3, 5-7, 23, 25, 44 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cialdi (US 6,027,741), cited in IDS on 10/3/2005, Renier (US 6, 579,978) and Valentini (US 5,759,205).

Cialdi teaches a coated biomedical object or device having a coating of sulfated polysaccharide, wherein the polysaccharide is a hyaluronic acid, hyaluronate ester or a salt thereof, specifically a sulfated hyaluronate ester (column 16, claims 1 and 4).

Regarding claim 3: Cialdi further teaches that important derivatives of hyaluronic acid are esters thereof with alcohol of the aliphatic, arayliphatic, heterocyclic and cycloalipathic series (Column 2, Lines 35-45). Cialdi further explain examples of sulfated hyaluronic acid ester that can be used in the present invention. Examples of such include HYAFF 11 (meaning 100% of the carboxyl groups are in the form of benzyl esters) (Column 4, lines 38-43); HYAFF 11p75 (75% benzyl ester of HA) (Column 7, lines 55-58).

Regarding claim 1: Cialdi also teaches that pharmaceutical preparations and biomaterials comprising sulfated derivatives of HA can be administered alone or in association with other chemical polymers and/or pharmacologically acceptable drugs (column 14, example 16). Examiner would like to note that by administering the HA coating in combination with an active ingredients, its inherent that the active agent would be present in a first quantity.

Examples include the association of a sulfated HA and a HA ester (non-sulfated) with an antibiotic, anti-inflammatory, antimicrobial, antibacterial and more (reading on active ingredients associated with HA polymer) (Column 15, lines 15-20).

Cialdi does not teach what constitutes a biomedical object or device and also fails to teach the ester derivative of the hyaluronic acid to not be sulfated

Renier teaches biomaterials comprising sulphated hyaluronic acid compounds and derivatives thereof (Claim 1 and 13), wherein the derivative is selected from the group consisting of a partial or total ester (claim 14). The biomaterials can be used to advantage in various fields of surgery, such as in the preparation of cardiac valves and vascular stents (column 5, lines 66-67-column 6, lines 4-5).

It would have been prima facie obvious to one of ordinary skill in the art to combine the teaching Cialdi and Renier. One of ordinary skill in art would have been motivated to substitute a stent for a biomedical object, because Renier demonstrates that it was well known at the time of the invention that stents comprising sulphonated hyaluronic acid compounds and derivatives thereof, are advantages in various fields of surgery, as these compounds have anticoagulant and antithrombotic activities (Abs).

Cialdi/Renier do not teach the stent to comprise a second coating comprising a hydrophobic polymer.

Valentini discloses implants having improved host tissue ingrowth capability and enhanced blood compatibility comprising at least one tissue-contacting surface of an electrically charged material (Abs). Materials which are useful include polystyrene, FEP, PTFE, PVDF, polylactic acid, etc (Col. 6, lines 55-67). The polymer coating can be applied to the surface of the implant by dipping, spraying and by other methods well known to those of skill in the art (Col. 7, lines 55-60). Example IV demonstrates the use of polystyrene on GRGDS/HYAFF

(ester derivative of HA). Cell attachment levels were greater on samples comprising polystyrene.

Valentini teaches that the polymeric coating can be modified, by covalently bonding chemical groups to the surface of the material, to include biologically active substances, such as proteins, peptides, antibodies, and adhesion molecules (reading on active agents associated with the hydrophobic polymer layer) (Col, 7, lines 10-15). Examiner would like to note that by administering the polystyrene coating in combination with an active ingredient, it's inherent that the active agent would be present in a second quantity.

The contact degree with water of polystyrene although not specifically stated can be expected to have the same properties as disclosed by the applicant since the polymers are equivalent to one another.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Cialdi/Renier and Valentini. One of skill in the art would have been motivated to add a 2nd polymeric coating, such as polystyrene, to the stent of Cialdi and Renier, as Valentini teaches that the use of polystyrene results in additional benefits, such as enhanced cell adhesion. Absent evidence to the contrary one of skill in the art would have a reasonable expectation of success, as both Cialdi/Renier and Valentini teaches the use of polymeric materials in stents in combination with additional therapeutic ingredients , therefore as these two compositions are taught by the prior art to be useful for the same purpose and therefore it would be obvious to combine the two to form a third composition for the same purpose.

Regarding the limitations "wherein the second coating is applied directly to the stent and the first coating is applied over the second coating...": It is noted that the combination of Cialdi/Renier and Valentini makes obvious a stent having two polymeric coatings. One of skill in

the art would recognize that when producing a 2 stent coating, there is a finite number of ways to coat the stent; a) HA coating and the polystyrene coating or b) polystyrene and then HA coating. Therefore, absent evidence of criticality the decision to layer polystyrene under the HA coating is simply a matter of design choice.

6. Claims 16-19, 21, 29, 30-31, 43, 48 and 52-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cialdi (US 6,027,741), Renier (US 6, 579,978) and Valentini (US 5,759,205), as applied to claims 1, 3, 5-7, 23, 25, 44 and 47 above, and further in view of Scott (US 5,383,928).

Cialdi/Renier and Valentini teach all the limitations of claims 1, 3, 5-7, 23, 25 and 44 above, but do not teach the thickness of the first and second coating, the release time of the active ingredients from the different coating.

At the time the invention was made, the structural components of stents and the drug containing polymer coatings used with stents were well known to those of ordinary skill in the art as exemplified by Scott. Scott teaches that the polymer coating on a stent can be varied in order to provide fast or slow release of the drug and that the production of such polymers is known to those in the art. Scott also teaches that coating can comprise different polymer and different drugs to obtain a desired effect and release rate.

Based on the teachings of Scott, one of skill in the art would have recognized that the thickness of the individual polymeric coatings and the quantity of polymers and drug used would have an effect on the release profile and would be motivated to optimize the thickness in order to achieve a desired effect and release profile.

MPEP 2144.05 II: "Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable

ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.)"

7. Claims 8-9 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cialdi (US 6,027,741), Renier (US 6, 579,978) and Valentini (US 5,759,205), as applied to claims 1, 3, 5-7, 23, 25, 44 and 47 above, and further in view of della Valle (US 4,851,521).

Cialdi/Renier and Valentini teach all the limitations of claims 1, 3, 5-7, 23, 25, 44 and 47, but do not teach that the ester derivative of HA is not sulfated.

Della Valle teaches non-sulphated esters of hyaluronic acid in which all or only a portion of the carboxylic groups of the acid are esterified and the salts of the partial esters with pharmacologically acceptable organic bases. Pharmaceutical preparation contain an active ingredient, one or more hyaluronic acid esters or a salt there of and a pharmacologically active substance. These can be used in medicine, surgery or cosmetics (Abstract). Alcohols of the aliphatic, araliphatic series can be used as esterifying components of the carboxylic groups of hyaluronic acid. Special attention should be give to benzyl alcohol and phenetyl alcohol (Column 9 lines 25-30 - Column 10 lines 25-37). Of particular interest is those partial esters in which at least 5% and at most 90% of all the carboxylic groups of HY are esterified (Column 9, 39-43).

A vast selection of chemotherapeutic agents can be used for treatment and administered orally or systematically, often in association with steroidal anti-inflammatory agents (Column 12, lines 10-15).

HA may be used as an additive for a wide variety of polymeric materials for use in medical and surgical articles. The addition of HA or one of its salts is effected by covering the

surface of such materials, these material can be used for the manufacture of cardiac valves, vascular clips, pacemakers, etc (Column 2, lines 10-20).

Table 1 describes 9 HA carboxyl's esterified with corticosteroid. Of these nine, 3 were dissolved in DMSO and the remaining 6 were dissolved in saline. These preparations were administered by instillation in the right eye of rabbits. Results showed that all preparations were effective at reducing inflammation.

It would have been prima facie obvious for one of ordinary skill in the art at the time the invention was made to combine the teachings of Cialdi/Reneir/Valentini and della Valle. One of ordinary skill in the art would have been motivated to create medical devices comprising non-sulfated HA ester derivatives as it was well known in the art at the time the invention was made that these could be used in conjunction with polymeric materials and therapeutic agents for the preparation of medical and surgical articles, as demonstrated Cialdi and della Valle. One of ordinary skill in the art would have been motivated to substitute two functional equivalents, in this case HA ester derivatives, whether sulfated or non-sulfated, which are taught by the prior art to be useful for the same purpose. Finally one of skill in the art would expect to be reasonable successful because both Cialdi and della Valle teach HA ester or salts thereof, whose carboxylic groups are esterified with alcohols selected from aliphatic, arylaliphathic, cycloalipathic and heterocyclic series.

MPEP 2144.06 recites "*It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980)."*

8. Claims 11-14, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cialdi (US 6,027,741), Renier (US 6, 579,978), Valentini (US 5,759,205) and della Valle

(US 4,851,521)., as applied to claims 8-9 and 45 above, and further in view of Sirhan et al (US 2002/0082679).

Cialdi/Renier/Valentini and della Valle teach all the limitations of claims 1, 3, 5-9, 23, 25, 44 and 47, but do not teach the active agent to have an anti-inflammatory action, anti-proliferative action, anti-migratory action and be an immunosuppressant associate with the HA polymer coating, nor teaches the active ingredient associated with the polystyrene coatings to be selected from anti-inflammatory, anti-proliferative, anti-migratory and/or immunosuppressant's.

Sirhan teaches luminal prosthesis, such as vascular stents and grafts for reducing or inhibiting restenosis (Paragraph 0003). The luminal prosthesis allows for the programmed and controlled substance delivery of therapeutic agents (Paragraph 0028). Therapeutic agents may be selected from a group consisting of immunosuppressant's, anti-inflammatory, anti-proliferative, and anti-migratory agents, among others (Paragraph 0029). It also teaches that the source of the therapeutic agent is a polymeric material including therapeutic capable moieties as a structural subunit of the polymer (Paragraph 0031). The prosthesis incorporates the substance by coating the substance on the prosthesis (Pg 21, claim 15). The total amount of the therapeutic agent is generally from .1 micrograms to 10g, but is preferably .1 micrograms to 10mg. This therapeutic agent may be released in a time period, as measured from the time of implanting the device, ranging from 1-200 days, 1-45 days and 7-21 days.

It would be *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cialdi/Renier/Valentini/della Valle and Sirhan. One of skill in the art would be motivated to substitute the polymer and therapeutic coating as taught in Sirhan for the HA polymer coating and active agent taught by Cialdi and the polystyrene coating which can have covalently bonded chemical groups, to which active agents, such as antibodies

are attached. One of ordinary skill in the art would be motivated to substitute two equivalents, in this case polymers, which are taught by the prior art to be useful for the same purpose, as a medical device coating. Finally, a person of skill in the art would reasonably have expected to be successful because both references disclose biomedical objects comprising polymer coatings that contain an active therapeutic agent.

6. Claims 10, 15 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cialdi (US 6,027,741), Renier (US 6, 579,978), Valentini (US 5,759,205), della Valle (US 4,851,521) and Sirhan et al (US 2002/0082679), as applied to claims 11-14, 26 and 28 above, and further in view of WO 99/03854 (pub date: 1/28/1999, cited on the 10/3/2005 IDS.

Cialdi/Renier/Valentini/della Valle and Sirhan teach all the limitations of claims 11-14, 26 and 28, but do not teach the active agent associated with the stent, both the HA polymer and the polystyrene coating, to be specifically 4-[(4-methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]animo]-phenyl] benzamide methane sulphonate.

Sirhan, Cialdi and Valentini stent of instant claim 1 with an active agent associated with both coatings, with quantities preferably of .1 micrograms to 10mg. What they fail to teach is the active ingredient being 4-[(4-methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]animo]-phenyl] benzamide methane sulphonate.

WO 99/03854 teaches that 4-[(4-methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]animo]-phenyl] benzamide methane sulphonate is effective in diseases associated with vascular smooth-muscle migration and proliferation, such as restenosis and atherosclerosis (pg 12, lines 25-27). As such 4-[(4-methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]animo]-phenyl] benzamide methane sulphonate can thus inhibit proliferation and especially the migration of vascular smooth-muscle cells (pg 16, lines 1-3).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of WO 99/03854 with Cialdi/Renier/Valentini/della Valle and Sirhan as it was well known at the time of the invention, as the properties of 4-[(4-methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]animo]-phenyl] benzamide methane sulphonate and it would be obvious to use this compound as an active agent in a medical stent to treat restenosis with a reasonable expectation of success.

9. Claims 20, 32 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cialdi (US 6,027,741), Renier (US 6, 579,978) and Valentini (US 5,759,205), as applied to claims 1, 3, 5-7, 23, 25, 44 and 47 above, and further in view of Morra et al (US 6,129,956).

Cialdi/Renier and Valentini teach all the limitations of claims 1, 3, 5-7, 23, 25, 44 and 47, but do not teach the stent to comprise a middle coating of HA between the polystyrene and HA polymer coating.

Morra teaches processes for coating the surfaces of objects with HA and its derivatives in the fields of surgery, healthcare and diagnostics. Surfaces treated with these processes and HA are characterized by a high degree of wettability, and are able to inhibit the adhesion of cells or bacteria present in biological fluids.

It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Cialdi/Reneir/Valentini and Morra. One of skill in the art would have been motivated to add a coating layer of HA to the stent of Cialdi/Renier and Morra, as Morra teaches that a surface coated with HA provides enhanced benefits, such as a high degree of wettability and the ability to inhibit the adhesion of cells or bacteria. Absent evidence to the contrary one of skill in the art would have a reasonable expectation of success

as Morra teaches that these coating are suitable for applications in the field of surgery, well known by those of skill in the art to include stents.

It is also noted that Valentini teaches that the polystyrene coating the capable of having chemical groups, wherein biological substances are attached, covalently bonded onto the coating. Based on the combined teachings of Morra and Valentini, one of skill would recognize that the HA of Morra could be covalently bonded to the either the HA polymer coating or the polystyrene coating or both, absent evidence of criticality.

One of skill in the art would also recognize that when given 3 stent coating, there is a finite number of ways to coat the stent; a) HA coating / polystyrene / HA; b) HA/ HA coating / polystyrene; c) polystyrene / HA coating / HA, d) HA / HA coating / polystyrene; e) Polystyrene / HA / HA coating and f) HA / polystyrene / HA coating . Therefore, absent evidence of criticality the decision to layer HA between the polystyrene and HA coating is simply a matter of design choice.

10. Claims 20, 32 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cialdi (US 6,027,741), Renier (US 6, 579,978), Valentini (US 5,759,205), as applied to claims 20, 32 and 46 above, and further in view of Scott (US 5,383,928)

Cialdi/Renier/Valentini and Morra teach all the limitations of claims 20, 32 and 46 but do not each the thickness of the first, second and middle coating and the release times of the active ingredients from the different coating.

At the time the invention was made, the structural components of stents and the drug containing polymer coatings used with stents were well known to those of ordinary skill in the art as exemplified by Scott. Scott teaches that the polymer coating on a stent can be varied in order to provide fast or slow release of the drug and that the production of such polymers is

known to those in the art. Scott also teaches that coating can comprise different polymer and different drugs to obtain a desired effect and release rate.

Based on the teachings of Scott, one of skill in the art would have recognized that the thickness of the individual polymeric coatings and the quantity of polymers and drug used would have an effect on the release profile and would be motivated to optimize the thickness in order to achieve a desired effect and release profile.

MPEP 2144.05 II: "Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.)"

11. Claims 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cialdi (US 6,027,741), Renier (US 6, 579,978) and Valentini (US 5,759,205), as applied to claims 1, 3, 5-7, 23, 25, 44 and 47 above, and further in view of Vercruysse (Critical Reviews in Therapeutic Drug Carrier Systems, 1998).

Cialdi/Renier/Valentini teach all the limitations of claim 1, but they do not teach the second coating of the stent to be polymethyl methacrylate among others, with a contact degree angle with water of 60°. The above teachings fail to specify one of the exact polymers given in claim 24.

The combination of the above art teaches polystyrene coated with HA and derivatives there of, while Vercruysse specifically teaches polymethyl methacrylate coated with HA (pg 528, lines 5-9).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to substitute the polystyrene of Valentini for the polymethyl methacrylate of Vercruysse, since the prior art teaches these to be equivalents, both hydrophobic and both are coated with HA. The contact degree with water of polystyrene although not specifically stated can be expected to have the same properties as disclosed by the applicant since the polymers can be considered equivalents to one another.

Response to Arguments

Applicant argues that none of the references disclose a double-coated stent wherein both coating act as a reservoir. Applicant is directed to the new rejections above, where a double coated stent is taught. While specific mention is not made regarding the coating acting as a reservoir, it is noted that these are properties of the polymeric coating. As the prior art makes obvious a double coated stent and teaches all the structural limitations of the claims, the polymeric coating are expected to function as "reservoirs" absent evidence demonstrating the contrary.

Applicant argues that Examiners remark that sulfated and non-sulfated HA esters are functional equivalents is not accurate nor it is substantiated by the evidence. On the contrary, the prior art teaches that sulphating medical compounds increase its ability to heal injured tissue and della Valle demonstrates that sulfated HA esters are better at creating an anti-inflammatory response. Della Valle finding contradict the Examiners assertion that sulphated and non-sulfated HA are functional equivalents.

This is not persuasive. While both Cialdi and della Valle teach that sulfated HA is better, as stated by applicant, neither reference teaches that non-sulfated HA would not function as a polymeric stent coating. Cialdi and della Valle demonstrate the use of both sulfated and non-

sulfated in combination with polymeric materials and therapeutic agents for the preparation of medical and surgical articles. Therefore, one of skill in the art would see these as functional equivalents, (which need not have identical properties, but have same function), as they are both ester derivatives of HA used along with medical articles.

Applicant further argues that the polystyrene wells that Valentini is referring to are the hard plastic laboratory equipment that lab technicians use. Moreover, Valentini does not suggest making a coating out of polystyrene, rather uses well plates to test the effectiveness of GRGDS coupled films.

This is not persuasive. Valentini clearly states that while fluoropolymers are preferred for use a polymeric coating, other biodegradable materials can be used. Suitable materials for coating include polystyrene (Col. 6, lines 55-67 to Col. 7, lines 1-6). While Example IV does refer to polystyrene wells, Example 5 is simply an example used to demonstrate the advanced cell adhesion on polystyrene. Nothing in Valentini indicated that "wells" are the only suitable use for polystyrene.

Applicant also argues that Examiner design choice for electing an optimal thickness fails to account for the large difference in uses amongst the many different medical devices.

This is not persuasive. As noted in the above rejection, Scott teaches that the polymer coating on a stent can be varied in order to provide fast or slow release of the drug and that the production of such polymers is known to those in the art. Scott also teaches that coating can comprise different polymer and different drugs to obtain a desired effect and release rate. Based on these teachings, one of skill in the art would have recognized that the thickness of the individual polymeric coatings and the quantity of polymers and drug used would have an effect on the release profile and would be motivated to optimize the thickness in order to achieve a

desired effect and release profile, absent evidence of criticality of the coating thickness, which applicant has not provided.

Conclusion

No claims are allowable.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Berríos whose telephone number is (571)270-7679. The examiner can normally be reached on Monday-Thursday: 7:00am-4:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Kwon can be reached on (571) 272-0581. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A Berríos/
Examiner, Art Unit 1613

/Tracy Vivlemore/
Primary Examiner, Art Unit 1635